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STUDY OF ACHIEVEMENT--REPORT POPULATION STUDY OF JUNIOR AND SENIOR KINDERGARTEN PUPILS, 1960-61 AND 1961-62.

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THIS DOCUMENT IS A POPULATION STUDY OF JUNIOR (JKP) AND SENIOR (SKP) KINDERGARTEN PUPILS IN TORONTO, CANADA. IT IS TO BE USED IN CONJUNCTION WITH A LONGITUDINAL "STUDY OF ACHIEVEMENT" (PS 000 355) THAT WILL ATTEMPT TO ASCERTAIN WHETHER THE EFFECTS OF JUNIOR KINDERGARTEN ON PUPILS' SCHOOL ACHIEVEMENT TEND TO DIMINISH FROM GRADE TO GRADE OR TEND TO PERSIST OVER TIME. IN ORDER TO ASCERTAIN THE INFLUENCE OF THIS SINGLE VARIABLE OF JUNIOR KINDERGARTEN ON LATER ACHIEVEMENT IN SENIOR KINDERGARTEN, ALL OTHER VARIABLES THAT MIGHT EFFECT ACHIEVEMENT MUST BE CONTROLLED. THE POPULATION STUDY PRESENTED IN THIS DOCUMENT INVOLVED GATHERING PUPIL PROFILE INFORMATION ON JKP AND SKP AND ORGANIZING THIS INFORMATION TO SEE IF THE PUPIL PROFILES DIFFER FOR THE 2 GROUPS. SUCH DIFFERENCES MIGHT REPRESENT VARIABLES, BESIDES JUNIOR KINDERGARTEN PARTICIPATION, THAT CAN INFLUENCE ACHIEVEMENT. CONSEQUENTLY, THEY WOULD HAVE TO BE CONTROLLED. AFTER GATHERING INFORMATION ON THE PUPIL HIMSELF AND ON HIS FAMILIAL, SOCIOECONOMIC, AND CULTURAL CHARACTERISTICS FROM 1486 JKP IN 1960-61 AND FROM 7209 SKP IN 1961-62, THE PERCENTAGE OF EACH PUPIL-GROUP THAT PLACED IN THE VARIOUS CATEGORIES WAS DETERMINED. THESE PERCENTAGES INDICATED CHARACTERISTICS OF THE PUPIL OR HIS ENVIRONMENT THAT DIFFERED BETWEEN JKP AND SKP. FOUR OF THESE AREAS OF DIFFERENCE, WHICH POSSBILY EFFECT ACHIEVEMENT AND MUST THEREFORE BE CONTROLLED IN THE MAJOR STUDY MENTIONED ABOVE, ARE (1) PUPIL AGE, (2) PRESENCE OR ABSENCE OF OLDER SIBLINGS, (3) FATHER'S EDUCATIONAL AND OCCUPATIONAL LEVEL, AND (4) THE LANGUAGE OF THE FAMILY AND PUPIL. (WD)

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STUDY OF ACHIEVEMENT:

Report on Population Study of Junior and Senior Kindergarten Pupils, 1960-61 and 1961-62

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ABSTRACT

The composition of the population of pupils in the Junior Kindergartens in thirty-six of Toronto's schools during 1960-61 was contrasted with that of pupils in the Senior Kindergartens in Toronto's eighty-six schools during 1961-62. Census type data for contrasting Toronto's Junior and Senior Kindergarten populations were derived from a forty-odd item survey of certain biological, familial, socio-economic and cultural factors about individual pupils and their home environments. Contrasting the compositions of the two populations showed: (1) population biases relevant to comparisons of indices of school achievement between pupils with and without Junior Kindergarten experience; (2) the pupil composition of a Senior Kindergarten population in Toronto's schools during a single year, in terms of the distributions of different factors within the population; and, (3) the types of Senior Kindergarten pupils that had been under or over-represented in the population served by Toronto's Junior Kindergartens one year earlier. Some positive and negative potentialities in functional relationships between population factors and the pupil-school situation were outlined and related to the compositions of the two populations.

FOREWORD

The thoroughness of the Population Study of Junior and Senior Kindergarten pupils during the 1960-61 and 1961-62 school years has been made possible only by the outstanding co-operation of Kindergarten teachers who devoted much time and effort to collecting the comprehensive data required. All people who derive benefit directly or indirectly from this research will want to extend their appreciation to those teachers who so conscientiously carried a major burden of the work.

Director, Research Department,
Board of Education for the
City of Toronto.

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STUDY OF ACHIEVEMENT: REPORT ON POPULATION STUDY OF JUNIOR AND SENIOR KINDERGARTEN PUPILS, 1960-61 AND 1961-62

INTRODUCTION

One of the purposes of the longitudinal Study of Achievement, (Research Department, Toronto Board of Education, 1963, 1964) now in progress, is to ascertain whether the effects of Junior Kindergarten experience on pupils' school achievement tend to diminish from grade to grade or tend to persist over time. If significant differences in indices of school achievement can be observed between one group of pupils who had Junior Kindergarten experience and another group who had no such experience, those observed differences cannot be attributed simply to the effects of Junior Kindergarten experience when the two groups also differ significantly on achievement related factors other than Junior Kindergarten experience.

The primary purpose of the "Population Study" report here was to discover on what factors, which described the basic Achievement Study Population, did that part of it with Junior Kindergarten experience show significant differences. The answers to this question could then be used in selecting any two groups of pupils from the Achievement Study Population, one with and one without Junior Kindergarten experience, in such a way that differences in the overall achievement of the two groups would not be attributable to these factors in the population as well as to Junior Kindergarten experience.

Although fundamental to investigations of the effects of Junior Kindergarten experience, the data and findings of the "Population Study" have other applications, as well, which this report is intended to show.

These other applications will be outlined after first identifying the basic Achievement Study Population.

The basic Achievement Study Population consisted of all pupils who attended the Senior Kindergartens in Toronto's eighty-six schools (Appendix A) during the 1961-62 school year. Throughout this report, this basic Achievement Study Population will be referred to as the SKP. Roughly one-sixth of the SKP had attended the Junior Kindergartens in thirty-six of Toronto's schools (Appendix A) during the previous school year, 1960-61. This sixth of the SKP represented 93% of the Junior Kindergarten Population of 1960-61 which, hereafter, will be referred to as the JKP. While the designation JKP refers to the entire population of pupils that attended Toronto's thirty-six schools with Junior Kindergartens during 1960-61, it is also used to represent that segment of the 1961-62 SKP which had Junior Kindergarten experience.

In yielding data that describe the SKP along with its JKP segment, the "Population Study" provides the first empirically derived description of a complete pupil population enrolled in a single grade throughout Toronto's eighty-six elementary schools. In describing the quantitative data in this report, some qualitative implications will be suggested in the hope that they will provide food for thought about how various factors in the population survey may be related to the pupil's total school situation, including his school achievement. Hopefully also, some of these qualitative relationships may suggest fresh ways of looking at how the schools are meeting the particular needs of its pupil population.

Presumably Junior Kindergartens are intended, in part, to meet special needs of a particular segment of students who will move into the

larger population of Toronto's schools. Providing the evidence which shows those types of pupils from the larger SKP that Junior Kindergartens tended to serve and not to serve, is a further function of this report.

There are, then, three perspectives from which the data and findings of the "Population Study" will be considered. One focuses on the population factors that need to be taken into account when investigating or interpreting school achievement. Another focuses on the total composition of the SKP, including its JKP segment. A third focuses on the JKP with regard to particular types of pupils who had an earlier school experience.

It should be stated, too, that while the "Population Study" shows how certain corresponding factors were distributed in the SKP and JKP, respectively, and where significant differences between the populations lie within each factor; the "Population Study" does not show how these differences arose. Yet another 'population study' is designed to show whether the ways in which the composition of the JKP differed from that of the SKP were attributable to:

(a) the pupil composition of the districts in which the thirty-six Junior Kindergartens were located, along with the limited number of accommodations available in each school with Junior Kindergarten facilities; or

(b) whether pupils from certain types of family backgrounds were more likely to begin their schooling in Junior rather than Senior Kindergarten.

In other words, separating out home and school factors in Junior Kindergarten enrolment was not a function of the study reported here. The JKP data used in the Population Study reported here were

obtained from a report issued earlier from this department (Study of Achievement, Research Department, Toronto Board of Education, 1962). The remaining JKP data of that earlier report are appended to this report. The earlier report, therefore, will be withdrawn from further circulation when the present report is issued.

METHOD

Data Collection

The data on which the Population Study was based were collected by Kindergarten teachers between the years 1960 and 1962.

During the 1960-61 school year, all JKP teachers filled in, as completely as possible for each child individually, a Pupil Profile Folder (Appendices B and C) which contained some forty-odd survey items for gathering data about the pupil himself and certain familial, socio-economic and cultural factors of the pupil's home environment. The folders of the 1595 pupils provided the data for the earlier JKP report mentioned above. The information was gathered from pupils themselves, from parents by personal or telephone interview and from school records.

In the following school year, 1961-62, folders from 93% of the JKP or the 1486 JKP pupils who became members of the SKP were forwarded to SKP teachers. SKP teachers reviewed the data already collected on each pupil from the JKP, tried to fill in any blank items, and brought the folders up-to-date. SKP teachers also collected data from pupils, parents and school records to fill in 7209 additional Pupil Profile Folders, one for each child whose first enrolment in the Toronto school system took place in Senior rather than Junior Kindergarten. The 7209 additional SKP folders plus the 1486 folders of SKP pupils who had come from the JKP made up the 8695 folders from which the SKP data were derived. SKP data and corresponding data from the earlier JKP report provided the observations upon which the Population Study reported here was based.

Derivation of SKP Data

In the 8695 Pupil Profile Folders, identical items were assigned one or more code numbers according to the number of possible information categories within the item. For instance, the item "Sex of Child" included two information categories. In each folder, this item was coded either 1 or 2, according to whichever category had been check-marked by the teacher.

When all items on each of the 8695 Pupil Profile Folders had been coded to represent the item-category checked by the teacher, the coded information was transferred to 8695 IBM cards, one for each pupil. The IBM cards were then processed by a machine programmed to print out, factor by factor, each instance of a pupil in the population having been placed in a particular category of a survey item or population factor. For each population factor, category totals were transformed into percentages of the total number of pupils for whom data were available over all the categories of the population factor in question.

Comparisons of JKP with SKP Data

For each population factor, corresponding SKP and JKP pupil percentages were aligned in tables. Pupil percentages across the categories of a population factor gave the best available approximation of the way in which that factor was distributed within the respective population. Although distribution errors increase whenever there is a decrease in the total number of pupils within a population for whom data on a factor is available, percentages across the categories of a factor are expected to show no more than slight distortions whenever the absolute number of instances on which the distributions are based include all, but

a small percentage of the population. Since the percentages shown in the tables of this report were, for the most part, based on a high percentage of a pupil population, it can be assumed that the distributions of the population factors, observed in the SKP and the JKP, approximate fairly closely those that would actually be found in the respective populations if every pupil instance of a factor could have been reported.

For each category of a population factor, differences between SKP and JKP pupil percentages were shown in the tables according to which of the two populations had the larger percentage. Such "Population Differences" were then tested for statistical significance on the assumption that the JKP was a sample of pupils obtained from an entire population whose factors were known (Dixon and Massey, 1957). The "known" population refers to the SKP. The SKP was also assumed to be synonymous with the entire population of pupils who were eligible for JKP enrolment when the limited JKP enrolment took place. When a "Population Difference" was found to be significant at or beyond the .01 level, the assumption was that the observed magnitude of the difference could have occurred, by chance alone, no more frequently than once during a process of obtaining at least one hundred JKP sized samples of pupils from the SKP. Similarly, the chances of getting a "Population Difference" significant at or beyond the .001 level would have been one in one thousand.

When "Population Differences" were found to be significant at either the .01 or .001 level, an inference was drawn that JKP pupils were either under or over-represented with respect to SKP pupils according to the direction of the "Population Difference" in the category of the factor in question. In other words, significant "Population Differences" simultaneously showed:

(a) what population factors surveyed, apart from Junior Kindergarten experience itself, would have to be taken into account when investigating the effects of Junior Kindergarten experience on later school achievement of pupils with and without such experience;

(b) the ways in which the JKP segment of the SKP differed from the SKP which contained the segment; and

(c) what types of Senior Kindergarten pupils were more likely and what types were less likely to have had Junior Kindergarten experience, whether as a function of school locations and limited enrolment capacity or of tendencies of pupils with certain types of family backgrounds to start school in Junior rather than Senior Kindergarten.

Also, the ways in which the pupil percentages themselves were distributed over the categories of each population factor showed separately the respective compositions of the 1960-61 JKP and the 1961-62 SKP or, alternately, showed the separate composition of the JKP segment as differentiated from the SKP which included 93% of the previous year's JKP.

RESULTS

For readers wishing to study the population data factor by factor, as it was summarized in the tables, the twenty-five tables are presented en mass with comment confined to table notations. Where there has been a further breakdown of the pupil percentages given in the tables, reference is made to the particular appendix in which they are contained.

A discussion of the salient features of the population factors, as they describe the Achievement Study Population (SKP) and contrast the JKP segment with the whole population, is reserved for the following section. Anticipating the discussion to follow, the tables are presented here in an order which corresponds to the following topics:

(1) School Experience (Table 1)--which describes, with pupil percentages, the 1961-62 SKP or Achievement Study Population in terms of the presence or absence of Junior Kindergarten experience and the number of years of school attendance.

(2) Biological Factors (Tables 2 and 3)--which here include only sex and age distributions within the SKP and within the JKP.

(3) Environmental Factors (Tables 4 through 18)--which comprise the bulk of the SKP and JKP population data and themselves fall into three subsections:

   (a) Familial Factors--including family size, number and sex of older and of younger siblings, and also numbers of grandparents living in the family home;

   (b) Socio-economic Factors--including types and sizes of family residences, parents' education, and also parents' occupation.

(c) Cultural Factors--including pupils' and parents' religious affiliations, parents' racial origins, parents' and pupils' countries of birth, and also languages spoken by the pupils and in the homes.

(4) Supplementary Factors (Tables 19 through 25)--which include parent-child legal, residence, and separation relationships; some information concerning the pupils' health; and finally, data on classes attended outside the jurisdiction of the public schools. These data are supplementary to the description of the populations in the sense that the categories of these factors were not widely distributed throughout the population.

School Experience Data

TABLE 1

AMOUNT AND TYPE OF SCHOOL EXPERIENCE WITHIN SKP
GIVEN IN PUPIL PERCENTAGES[a]

Type of School Experience (N = 8458)[b]	Amount of School Experience			Totals (Type)
	1st Year	2nd Year	3rd Year	
Sr.K. only	79.85	02.49	00.25	82.59
Sr.K. and Jr.K.[c]	00.31	17.03	00.06	17.40
Totals (Amount)	80.16	19.52	00.31	99.99

[a] For both SKP and JKP pupil percentages, broken down by month as well as year of first school enrolment, see Appendix D.

[b] Number of pupils represents 97% of the SKP.

[c] The 17.03% plus the 0.06% represents the sixth of the SKP that came from the JKP. The 0.31% represents pupils whose previous school experience was not acquired within the Toronto school system.

Biological Data

Sex

TABLE 2

BOYS AND GIRLS WITHIN SKP AND JKP GIVEN IN PUPIL PERCENTAGES SHOWING POPULATION DIFFERENCES

Population	Number of Pupils[a]	Number of Schools	Sex of Child	
			Boys	Girls
SKP	8695	86	51.85	48.15
JKP	1595	36	51.35	48.65
Population Differences				
SKP > JKP	(.100)	(50)	0.50	
JKP > SKP				0.50

* Significant beyond .01 level.
** Significant beyond .001 level.

[a] Number of Pupils represents 100% of the SKP and 100% of the JKP.

Biological Data

Age

TABLE 3

MODAL AGES WITHIN SKP AND JKP GIVEN IN PUPIL PERCENTAGES[a]
SHOWING POPULATION DIFFERENCES

Population	Number of Pupils[b]	Modal Age (M) ∓ Number of Years			
		M - 1	M	M + 1	M + 2
SKP (M = 5 yrs.)	8534	31.52	66.73	1.68	0.07
JKP (M = 4 yrs.)	1591	16.72	83.22	0.06	0.00
Population Differences					
SKP > JKP	'6943)	14.80**		1.62**	0.07
JKP > SKP			16.49**		

* Significant beyond .01 level.
** Significant beyond .001 level.

[a] The transformation of absolute ages into modal ages makes the earlier JKP data correspond to the SKP data for comparative purposes. For a classification of pupil percentages by absolute age at SKP and JKP September enrolment, 1961 and 1960 respectively, see Appendix E.

[b] Number of pupils represents 98% of the SKP and 99% of the JKP.

Familial Environmental Data

Family Size

TABLE 4

SIZES OF SKP AND JKP FAMILIES GIVEN IN PUPIL PERCENTAGES[a] SHOWING POPULATION DIFFERENCES

Population	Number of Pupils[b]	Number of Family Members		
		2 - 4	5 - 7	8 - 12+
SKP	8252	39.23	50.91	9.86
JKP	1547	37.36	53.79	8.85
Population Difference[c]				
SKP > JKP	(6705)	1.87		1.01
JKP > SKP			2.88	

[a] For a further numerical breakdown of pupil percentages, see Appendix F. Note also that family size refers only to these people living in the home with the pupil but it includes relatives, boarders and servants as well as the immediate family.

[b] Number of pupils represents 95% of the SKP and 97% of the JKP.

[c] The one year interval between the collections of JKP and SKP data invalidates statistical assessments of population differences for family sizes.

Familial Environmental Data

Siblings by Number

TABLE 5

NUMBERS OF OLDER AND YOUNGER SKP AND JKP SIBLINGS GIVEN IN PUPIL PERCENTAGES[a] SHOWING POPULATION DIFFERENCES

Population	Number of Pupils[b]	Number of Sibs		
		1	2	3+
Older:				
SKP	6808	68.20	22.30	9.50
JKP	1443	66.66	22.31	11.03
Population Differences				
SKP > JKP	(5365)	1.54		
JKP > SKP			0.01	1.53
Younger:				
SKP	5674	80.88	16.30	2.82
JKP	884	85.55	13.35	1.10
Population Differences[c]				
SKP > JKP	(4790)		2.95	1.72
JKP > SKP		4.67		

* Significant beyond .01 level.
** Significant beyond .001 level.

[a] Same age sibs in multiple births are not classified with older and younger sibs. Note also that some of the same pupils may have both older and younger sibs.

[b] Numbers of pupils with older sibs represent 78% of the SKP and 90% of the JKP; with younger sibs representing 65% of the SKP and 55% of the JKP.

[c] The one year interval between the collections of JKP and SKP data invalidates statistical assessment of population differences for younger sibs.

Familial Environmental Data

Siblings by Sex

TABLE 6

SEX OF OLDER AND YOUNGER SKP AND JKP SIBLINGS[a] GIVEN IN PUPIL PERCENTAGES SHOWING POPULATION DIFFERENCES

Population	Number of Pupils[b]	Sibs by Sex	
		Brothers	Sisters
Older Sibs:			
SKP	8695	39.48	38.82
JKP	1595	44.26	46.21
Population Differences			
SKP > JKP	(7100)		
JKP > SKP		4.78**	7.39**
Younger Sibs:			
SKP	8695	33.46	31.80
JKP	1595	28.84	26.58
Population Differences[c]			
SKP > JKP	(7100)	4.62	5.22
JKP > SKP			

* Significant beyond .01 level.
** Significant beyond .001 level.

[a] Same age sibs in multiple births are not classified with older and younger sibs. Note also that sibling categories are not independent. Some of the same pupils may have both older and younger brothers and/or sisters. For a further breakdown of these pupil percentages by numbers of sibs, see Appendix G.

[b] Number of pupils represents 100% of the SKP and 100% of the JKP.

[c] The one year interval between the collections of JKP and SKP data invalidates statistical assessment of population differences for younger sibs.

Familial Environmental Data

Grandparents

TABLE 7

NUMBER OF SKP AND JKP GRANDPARENTS AT HOME
GIVEN IN PUPIL PERCENTAGES SHOWING POPULATION DIFFERENCES

Population	Number of Pupils[a]	Grandparents at Home		
		1	2	3 - 4
SKP	1432	56.56	41.97	1.47
JKP	266	57.52	40.98	1.50
Population Differences				
SKP > JKP	(1166)		0.99	
JKP > SKP		0.96		0.03

* Significant beyond .01 level.
** Significant beyond .001 level.

[a] Number of pupils represents 16% of the SKP and 16% of the JKP.

Socio-economic Environmental Data

Residence Types

TABLE 8

TYPES OF SKP AND JKP RESIDENCES GIVEN IN PUPIL PERCENTAGES SHOWING POPULATION DIFFERENCES

Population	Number of Pupils[a]	Type of Residence			
		House	Flat	Apt.	Rooms
SKP	8423	62.27	19.10	14.40	4.23
JKP	1517	66.51	16.42	13.58	3.49
Population Differences					
SKP > JKP	(6906)		2.68*	0.82	0.74
JKP > SKP		4.24**			

* Significant beyond .01 level.
** Significant beyond .001 level.

[a] Number of Pupils represents 97% of the SKP and 95% of the JKP.

Socio-economic Environmental Data

Residence Sizes

TABLE 9

SIZES OF SKP AND JKP RESIDENCES GIVEN IN PUPIL PERCENTAGES SHOWING POPULATION DIFFERENCES

Population	Number of Pupils[a]	Number of Rooms		
		Small 1 to 3	Medium 4 to 6	Large 7 to 10+
SKP	8287	21.57	58.19	20.24
JKP	1473	18.53	64.15	17.32
Population Differences[b]				
SKP > JKP	(6814)	3.04*		2.92*
JKP > SKP			5.96**	

* Significant beyond .01 level.
** Significant beyond .001 level.

[a] Number of pupils include 95% of the SKP and 92% of the JKP.

[b] When SKP and JKP data are compared in each numerical category separately, only the homes of five rooms and those of ten plus show significant population differences. For a further numerical breakdown of pupil percentages, see Appendix H.

TABLE 10

FORMAL EDUCATION CATEGORIES OF SKP AND JKP FATHERS AND MOTHERS GIVEN IN PUPIL PERCENTAGES SHOWING POPULATION DIFFERENCES

Parent	Number of Pupils[a]	Elementary		Secondary		University	
		Non-grad	Grad	Non-grad	Grad	Non-grad	Grad
Fathers:							
SKP	7617	10.07	36.35	29.88	13.39	3.10	7.21
JKP	1325	3.15	38.12	36.16	14.49	2.94	5.14
Population Differences							
SKP > JKP (6292)		6.92**				0.16	2.07*
JKP > SKP			1.77	6.28**	1.10		
Mothers:							
SKP	7668	10.67	33.04	35.03	15.15	2.39	3.72
JKP	1362	3.30	34.22	41.26	17.33	1.91	1.98
Population Differences							
SKP > JKP (6306)		7.37**				0.48	1.74**
JKP > SKP			1.18	6.23**	2.18		

* Significant beyond .01 level.
** Significant beyond .001 level.

[a] Number of pupils represent 88% of the SKP and 84% of the JKP for fathers and for mothers 88% of the SKP and 85% of the JKP.

Socio-economic Environmental Data

Parents' Education

TABLE 11

FORMAL EDUCATION CATEGORIES OF SKP AND JKP FATHERS AND MOTHERS GIVEN IN PUPIL PERCENTAGES SHOWING PARENTAL DIFFERENCES[a]

Population	Number of Pupils[a]	Elementary		Secondary		University	
		Non-grad	Grad	Non-Grad	Grad	Non-grad	Grad
SKP:							
Fathers	7617	10.07	36.35	29.88	13.39	3.10	7.21
Mothers	7668	10.67	33.04	35.03	15.15	2.39	3.72
Parental Differences							
Fa > Mo			3.31			0.71	3.49
Mo > Fa	(51)	0.60		5.15	1.76		
JKP:							
Fathers	1325	3.15	38.12	36.16	14.49	2.94	5.14
Mothers	1362	3.30	34.22	41.26	17.33	1.91	1.98
Parental Differences							
Fa > Mo			3.90			1.03	3.16
Mo > Fa	(37)	0.15		5.10	2.84		

[a] Differences between populations are a primary concern in this study; differences within populations are included for interest but are not tested for significance.

Socio-economic Environmental Data

Parents' Occupation

TABLE 12

OCCUPATIONAL CATEGORIES OF SKP AND JKP FATHERS AND MOTHERS GIVEN IN PUPIL PERCENTAGES SHOWING POPULATION DIFFERENCES

Population	Number of Pupils[a]	Occupational Categories[b]						
		1	2	3	4	5	6	7
Fathers:								
SKP	8159	15.60	29.45	25.62	18.46	4.45	3.42	3.00
JKP	1498	16.35	25.97	31.04	10.35	9.41	2.94	3.94
Population Differences								
SKP > JKP (6661)			3.48*		8.11**		0.48	
JKP > SKP		0.75		5.42**		4.96**		0.94**
Mothers:								
SKP	2139	16.78	34.22	9.30	30.44	4.49	2.20	2.57
JKP	336	11.91	29.46	5.66	38.99	7.14	5.95	0.89
Population Differences								
SKP > JKP (1803)		4.87	4.76	3.64				1.68
JKP > SKP					8.55**	2.65	3.75**	

* Significant beyond .01 level.
** Significant beyond .001 level.

[a] Number of pupils represents 94% of the SKP and 94% of the JKP for fathers and for working mothers, 25% of the SKP and 23% of the JKP.

[b] Classified utilizing the scheme of Hollingshead and Redlich (1958).

1. Unskilled employees, Unemployed workers.
2. Semi-skilled employees.
3. Skilled manual employees.
4. Clerical-Sales workers, Technicians, Owners of little businesses.
5. Administrative personnel, Small idenpendent businesses, Minor professionals.
6. Business managers, Proprietors--medium businesses, Lesser professionals.
7. Higher executives, Proprietors--large businesses, Major professionals.

Cultural Environmental Data

Pupils' Religious Affiliations

TABLE 13

RELIGIOUS AFFILIATION OF SKP AND JKP PUPILS GIVEN IN PUPIL PERCENTAGES SHOWING POPULATION DIFFERENCES

Population	Number of Pupils[a]	Religious Affiliation			
		Protestant	Roman Catholic	Jewish	Buddhist
SKP	7035	59.50	38.25	2.02	0.23
JKP	1526	67.30	28.57	3.67	0.46
Population Differences					
SKP > JKP	(5509)		9.68**		
JKP > SKP		7.80**		1.65**	0.23

* Significant beyond .01 level.
** Significant beyond .001 level.

[a] Number of pupils represents 81% of the SKP and 96% of the JKP.

Cultural Environmental Data

Religious Congruence

TABLE 14

SKP AND JKP INTRAFAMILIAL RELIGIOUS CONGRUENCE GIVEN IN PUPIL PERCENTAGES SHOWING POPULATION DIFFERENCES

Population	Intrafamilial Religious Congruence[a]		
	Parent-Parent	Father-Pupil	Mother-Pupil
SKP (Pop. = 8695)	91.12 (N = 7910)	93.98 (N = 7794)	96.13 (N = 7885)
JKP (Pop. = 1595)	87.15 (N = 1494)	91.84 (N = 1483)	94.94 (N = 1502)
Population Differences			
SKP > JKP %	3.97**	2.14**	1.19
JKP > SKP %			
SKP > JKP N	(6416)	(6311)	(6383)

* Significant beyond .01 level.
** Significant beyond .001 level.

[a] The N or number of pupils reporting the two items required to establish presence or absence of congruence differed for each congruence category. Religious congruence categories do not take into account the denominations within Protestant, Roman Catholic, Jewish, Buddhist or "other" faiths. Two faiths reported as "other" were treated as congruent. Religious congruence categories are not independent; i.e., father-pupil agreement does not preclude mother-pupil agreement, etc. Three-way congruence of father-mother-pupil was not ascertained.

Cultural Environmental Data

Parents' Racial Origins

TABLE 15

RACIAL ORIGINS OF SKP AND JKP FATHERS AND MOTHERS GIVEN IN PUPIL PERCENTAGES SHOWING POPULATION DIFFERENCES

Parent	Number of Pupils[a]	Parental Racial Origin		
		Caucasian	Negroid	Asiatic
Fathers:				
SKP	8051	96.34	1.24	2.42
JKP	1496	95.25	1.61	3.14
Population Differences				
SKP > JKP	(6555)	1.09		
JKP > SKP			0.37	0.72**
Mothers:				
SKP	7987	96.39	1.24	2.37
JKP	1464	95.36	1.43	3.21
Population Differences				
SKP > JKP	(6523)	1.03		
JKP > SKP			0.19	0.84**

* Significant beyond .01 level.
** Significant beyond .001 level.

[a] Number of pupils represents 93% of the SKP and 94% of the JKP for fathers and for mothers, 92% of the SKP and 92% of the JKP.

TABLE 16

COUNTRIES OF BIRTH OF SKP AND JKP PUPILS, FATHERS AND MOTHERS GIVEN IN PUPIL PERCENTAGES SHOWING POPULATION DIFFERENCES

Population	Number of Pupils[a]	Number of Countries	Country of Birth			
			0 Canada	1 Italy	2 Br. Isles	3+ Other[b]
Pupils:						
SKP	8624	28	85.92	4.74	2.27	7.07
JKP	1590	21	89.68	2.20	2.95	5.17
Population Differences						
SKP > JKP (7034)		(07)		2.54**		1.90
JKP > SKP			3.76**		0.68	
Fathers:						
SKP	7550	34	53.18	14.37	6.46	25.99
JKP	1570	23	59.26	9.04	7.70	24.00
Population Differences						
SKP > JKP (5980)		(09)		5.33**		1.99
JKP > SKP			6.08**		1.24	
Mothers:						
SKP	7554	31	55.56	14.08	6.17	24.19
JKP	1576	25	60.66	8.44	8.43	22.47
Population Differences						
SKP > JKP (5978)		(06)		5.64**		1.72
JKP > SKP			5.10**		2.26*	

* Significant beyond .01 level.
** Significant beyond .001 level.

[a] Number of pupils represents 99% of the SKP and 99% of the JKP pupils; for fathers, 87% of the SKP and 98% of the JKP; for mothers, 87% of the SKP and 98% of the JKP.

[b] For a breakdown of "other" pupil percentages by country, see Appendix I. No "other" country showed a significant population difference.

Cultural Environmental Data

English and Foreign Speakers

TABLE 17

ENGLISH AND/OR FOREIGN SPEAKERS AMONG SKP AND JKP PUPILS AND HOMES GIVEN IN PUPIL PERCENTAGES SHOWING POPULATION DIFFERENCES

Population	Number of Pupils[a]	English Only	English and Foreign	No English Foreign Only	Total English	Total Foreign
Pupils:						
SKP	8561	65.16	28.16	6.68	93.32	34.84
JKP	1595	76.22	15.88	7.90	92.10	23.78
Population Differences						
SKP > JKP	(6966)		12.28**		1.22	11.06
JKP > SKP		11.06**		1.22		
Homes:						
SKP	5592	60.06	21.76	18.18	81.82	39.94
JKP	1586	68.99	16.38	14.63	85.37	31.01
Population Differences						
SKP > JKP	(7006)		5.38**	3.55**		8.93
JKP > SKP		8.93**			3.55	

* Significant beyond .01 level.
** Significant beyond .001 level.

[a] Number of pupils represents 98% of the SKP and 100% of the JKP for pupils and for homes, 99% of the SKP and 99% of the JKP.

Cultural Environmental Data

Foreign Languages

TABLE 18

FOREIGN LANGUAGES OF SKP AND JKP PUPILS AND HOMES GIVEN IN PUPIL PERCENTAGES[a] IN RANK ORD

SKP				JKP			
Pupils N = 8624		Homes N = 8592		Pupils N = 1595		Homes N = 1586	
Italian	13.85**	Italian	14.26**	Italian	8.09	Italian	8.70
German	4.35	German	5.16	German	3.57	German	4.66
Ukrainian	2.65	Ukrainian	3.28	Ukrainian	2.63	Ukrainian	3.53
Polish	2.19	Polish	2.78	Polish	1.63	Polish	2.58
Greek	2.04	Greek	2.18	Greek	1.50	French	2.21
Portuguese	1.17	French	1.57	Portuguese	1.06	Greek	1.89
Chinese	1.13	Chinese	1.23	French	1.06	Yiddish	1.58**
Yugoslav	0.73	Portuguese	1.18	Chinese	0.94	Portuguese	1.07
Lithuanian	0.71	Yugoslav	0.88			Chinese	1.01
French	0.70	Lithuanian	0.83				
Others < 0.7	5.32		6.99		3.30		3.78
Totals[b]	34.84		39.94		23.78		31.01

* Significant beyond .01 level.
** Significantly over-represented beyond .001 level.

[a] Speakers of more than one language are included in more than one percentage. For a complete language breakdown of pupil percentages, see Appendix J.

[b] Totals correspond to "Total Foreign" column in Table 17.

Supplementary Data

Legal Relationships

TABLE 19

LEGAL RELATIONSHIPS OF SKP AND JKP PARENTAL FIGURE TO PUPIL GIVEN IN PUPIL PERCENTAGES SHOWING POPULATION DIFFERENCES

Parental Figure	Number of Pupils[a]	Parent-Child Legal Relationships			
		Biological	Step	Foster	Guardian
Male Parent:					
SKP	8406	98.04	1.23	0.40	0.33
JKP	1986	98.68	0.32	0.44	0.56
Population Differences					
SKP > JKP	(6820)		0.91*		
JKP > SKP		0.64		0.04	0.23
Female Parent:					
SKP	8429	99.03	0.22	0.43	0.32
JKP	1986	99.24	0.19	0.38	0.19
Population Differences					
SKP > JKP	(6843)		0.03	0.05	0.13
JKP > SKP		0.21			

* Significant beyond .01 level.
** Significant beyond .001 level.

[a] Number of pupils represents 97% of the SKP and 99% of the JKP for male parents and for female parents, 97% of the SKP and 99% of the JKP.

Supplementary Data

Residence Relationships

TABLE 20

RESIDENCE RELATIONSHIPS OF SKP AND JKP BIOLOGICAL PARENT TO PUPIL GIVEN IN PUPIL PERCENTAGES SHOWING POPULATION DIFFERENCES

Biological Parent	Number of Pupils[a]	Residence Relationship to Child		
		At Home	Out of Home	Deceased
Fathers:				
SKP	7694	93.11	6.04	0.85
JKP	1494	93.98	5.22	0.80
Population Differences				
SKP > JKP	(6200)		0.82	0.05
JKP > SKP		0.84		
Mothers:				
SKP	7677	98.48	1.31	0.21
JKP	1446	98.98	0.95	0.07
Population Differences				
SKP > JKP	(6231)		0.36	0.14
JKP > SKP		0.50		

* Significant beyond .01 level.
** Significant beyond .001 level.

[a] Number of pupils represents 88% of the SKP and 94% of the JKP for fathers and for mothers, 91% of the SKP and 91% of the JKP.

Supplementary Data

SKP Separations

TABLE 21

SEPARATIONS OF SKP PARENTS FROM PUPILS
GIVEN IN PUPIL PERCENTAGES SHOWING PARENTAL DIFFERENCES

SKP Parent[a]	Number of Pupils[b]	Sources of Parent-Pupil Separations					
		1 Separation	2 Death	3 Divorce	4 Remarriage	5 Sickness or Other	6 Return
Fathers	725	64.97	17.10	10.90	4.00	2.62	0.41
Mothers	264	50.00	11.74	13.26	12.12	10.99	1.89
Parental Differences[c]							
Fa > Mo	(461)	14.97	5.36				
Mo > Fa				2.36	8.12	8.37	1.48

[a] Comparable data were not tabulated for the JKP.

[b] Number of pupils represents 8% of the SKP for fathers and for mothers, 3% of the SKP.

[c] Differences between populations are a primary concern of the study; differences within populations are included for interest but are not tested for significance.

Supplementary Data

Out-of-School Classes

TABLE 22

CLASSES OUTSIDE SCHOOL JURISDICTION ATTENDED BY SKP PUPILS, GIVEN IN PUPIL PERCENTAGES

Type of Class[a]	N = 365 (4% of SKP)
Church Group	50.41
Dancing	7.40
Language[b]	6.30
Music	3.01
Other	32.88

Note.--Only 13 JKP pupils attended classes outside school jurisdiction. Three attended language classes, two for Chinese and one for Russian. The other 10 attended church groups, music lessons and other activities.

[a] Appendix K shows number of hours SKP and JKP pupils spent in classes outside school jurisdiction.

[b] Language includes Latvian, Hungarian, Hebrew, Chinese and Russian. Percentages are shown in Appendix L.

Supplementary Data

Illness/Operation

TABLE 23

ILLNESS AND/OR OPERATION FREQUENCIES OF SKP AND JKP PUPILS SHOWING PER CAPITA AVERAGES

Population	Number of Pupils	Per Cent of Population	Number of Illnesses and/or Operations	Per Capita Illnesses and/or Operations
SKP	2070	23.81	2711	1.31
JKP	331	20.75	409	1.24

Supplementary Data
JKP Illness/Operations

TABLE 24

ILLNESS AND/OR OPERATION CATEGORIES FOR JKP PUPILS SHOWING PUPIL AND OCCURRENCE PERCENTAGES FOR EACH CATEGORY

Operation or Illness Category	Percentage Pupils N = 331[a]	Percentage Occurrence N = 409
1. Routine operations	32.63	26.40
2. Cardiac, respiratory, circulatory, and blood disorders	18.13	14.67
3. Common childhood infectious diseases	13.60	11.00
4. Corrective operations	12.39	10.02
5. Skin diseases, allergies, and infections	11.78	9.54
6. Traumatic and accidental injuries	11.48	9.29
7. Irregularities of birth, growth, and maturation	7.25	5.87
8. Nervous and mental disorders	5.14	4.16
9. Gastrointestinal disorders and poisoning	4.23	3.42
10. Emergency and major operations	1.51	1.22
11. Transmissible diseases	1.51	1.22
12. Sensory and perceptual impairments and injuries	1.21	0.98
13. Paralytic and degenerative diseases	0.91	0.73
14. Urgenital disorders	0.91	0.73
15. Endocrine disorders and glandular dysfunctions	0.30	0.24
16. Deficiency diseases	0.30	0.24
17. Ambiguous	0.30	0.24
Totals	123.38	99.97

[a] 331 pupils = 20.75% of JKP, some of whom had more than one type of illness/operation.

Supplementary Data

SKP Physical Defects

TABLE 25

FREQUENCIES IN PHYSICAL DEFECT CATEGORIES FOR SKP PUPILS SHOWING PERCENTAGE OF TOTAL DEFECTS[a] AND PERCENTAGE OF CATEGORY CORRECTED

Defect Category	Number of Defects	Percentage of N = 880[b]	Percentage Corrected
Vision	258	29.3	43.0
Speech	219	24.9	4.1
Body Deformity	78	8.9	14.1
Hearing	75	8.5	21.3
Underweight	69	7.8	5.8
Cardiac Condition	58	6.6	6.9
Overweight	51	5.8	3.9
Muscular Coordination	30	3.4	3.3
Respiratory Condition	28	3.2	7.1
Diabetes	14	1.6	14.3

[a] For SKP percentages of both pupils and defects corrected and uncorrected for each category, see Appendix M. Corresponding data were not tabulated for the JKP.

[b] The 880 defects were reported for 807 pupils or 9% of the SKP.

DISCUSSION

In the ensuing discussion of the salient features of the Achievement Study Population or SKP and of the JKP segment which it contained, attention will be drawn to some of the possible ways in hich different population factors may influence the pupils' school situation and their achievement indices. Attention will also be drawn to significant population differences between the SKP and the JKP which need to be taken into consideration when comparing achievement indices between pupils with and without Junior Kindergarten experience.

This description of the SKP and JKP is intended to give a general overall impression rather than a precise quantitative definition of the Achievement Study Population. The precise quantitative definition is contained in the Tables of the preceding section. Hopefully, the quantitative aspects of the description given here will be enlivened for the reader by some of the qualitative relationships in the pupil-school situation which are suggested. The discussion will be organized around the following topics: (1) School Experience; (2) Biological Factors; (3) Environmental Factors; and, (4) Supplementary Factors.

(1) School Experience

School experience is, of course, the primary factor which will differentiate pupils whose achievement indices are to be compared during the course of the longitudinal Study of Achievement. Five-sixths of the 8695 pupils of the basic Achievement Study Population or SKP began their schooling in Senior Kindergartens (Table 1). With only a few exceptions, the other sixth entered Senior Kindergarten with some background of previous school experience from the Junior Kindergartens in the City of Toronto. These, however, were not the only children with previous school experience. About 3% of the SKP were Senior Kindergarten repeaters, a few of whom were repeating a second time. Only one of the repeaters had had previous Junior Kindergarten experience.

(2) Biological Factors

Just two biological factors, sex and age, were included in the study. Of these two, only age discriminated significantly between the SKP and the JKP. Both populations showed approximately the same sex distributions (Table 2). The JKP segment, as well as the SKP had a slightly larger proportion of boys, roughly 52%. With respect to age, there was a significantly larger proportion of five-year-olds and a significantly smaller proportion of four-year-olds among Senior Kindergarten pupils with Junior Kindergarten experience than among SKP pupils generally (Table 3). The age ranges for admission to Junior Kindergartens was narrower than for admission to Senior Kindergartens. In relation to school achievement, then, the JKP segment could be expected to average higher achievement indices than the SKP simply as a function of developmental maturation accompanying age.

(3) Environmental Factors

The bulk of the data of the population study was concerned with aspects of the pupils' out-of-school or home environment. The environmental factors to be discussed here are, for the most part, factors whose categories were widely dispersed throughout the populations. Some additional environmental factors whose categories were not widely dispersed among the pupils will be considered separately under "Supplementary Factors." The factors included here fall into three groupings: (a) familial factors; (b) socio-economic factors; and, (c) cultural factors which, together, comprised the bulk of the data in the study.

3(a) Familial factors included family sizes, sex and numbers of older and of younger siblings, as well as numbers of grandparents living in the pupils' homes. Family size referred only to those people actually living in the pupil's household but it included relatives, boarders and servants, as well as the pupil's immediate kin (Table 4). Families in both populations ranged in size from two to twelve or more members, with roughly half of each population falling within the five to seven member range. About 40% came from smaller and 10% from larger families. The similar distributions of family sizes in the JKP and SKP do not, however, imply similar distributions in the JKP segment and in the SKP. Family sizes are effected by time and the JKP data, used in the population study to represent SKP pupils with Junior Kindergarten experience, were collected one year before the SKP data. Similarly, data on younger siblings (Tables 5 and 6) are also effected by time and cannot be considered representative of SKP pupils with Junior Kindergarten experience. Statistical comparisons between populations were not, therefore, warranted for these data in the study. However, 65% of the SKP and 55% of the JKP reported younger sibs in their families (Table 5).

Data on older siblings, on the other hand, were comparable. Older siblings were reported by 90% of the JKP in contrast to just 78% of the SKP (Table 15). The JKP had a significantly larger proportion of both older brothers and older sisters (Table 16). In as much as older sibs might function to stimulate social and/or intellectual development in younger family members, this factor combined with the age difference discussed above lends further support to an inference that the JKP segment tended to be a more mature group than the SKP. With respect to the number of older sibs each pupil had, the two populations were similar (Table 15). Roughly 68% of those in each population who reported older sibs had just one. About another 22% had two, 6% had three and the remaining 4% had four or more. Brothers and sisters were approximately equally distributed among both older and younger siblings (Table 16).

As well as older and younger sibs, about 2.5% of both the SKP and the JKP had multiple births or twins, etc. in their families. Grandparents living in the home apparently make no difference as to whether the child started school in Junior or Senior Kindergarten. Abut 16% of both populations reported either one or two grandparents living at home.

Although the design of the present population study precluded statistical comparisons of family size and younger sibling data, these factors may differentiate SKP pupils with Junior Kindergarten experience from the population as a whole. Both family size and sibling factors—especially older siblings--may differentially bias investigations of the effects of Junior Kindergarten experience on indices of pupils' later school achievement.

3(b) Socio-economic factors in the study included types and sizes of family dwellings, parents' education and parents' occupation.

Within each population, types of residences ranged in popularity from houses to flats, then apartments and finally rented rooms (Table 8). The most popular residence sizes were medium sized dwellings of four to six rooms. Smaller and larger sized dwellings were about equally distributed within each population (Table 9). Between populations, however, there were significant differences. The JKP were more concentrated in the medium sized dwellings (SKP 58%; JKP 64%) and were under-represented in both smaller (SKP 22%; JKP 19%) and larger (SKP 20%; JKP 17%) size categories. A significantly larger proportion of the JKP occupied houses (SKP 62%; JKP 67%) and a significantly smaller proportion occupied flats (SKP 19%; JKP 16%). There were no significant population differences for apartments or rented rooms which housed about 14% and 4%, respectively, of each population. The data on residence types and sizes suggest that the JKP tended to be more concentrated in a middle socio-economic status, while the SKP had a larger representation of low socio-economic status families. High socio-economic status cannot be inferred from large sized dwellings since these may be either private residences or income enterprizes with rented rooms.

Parents' education was classified into six categories according to whether the parent had graduated or not graduated from elementary school, secondary school, or university (Table 10). In both populations, the two largest categories were those of pupils with parents who had graduated from elementary school and with parents who had attended but not graduated from secondary school. These two categories accounted for roughly two-thirds of the fathers and a somewhat larger proportion of mothers of each population. However, the higher of these two categories contained a significantly larger proportion of JKP parents.

In the SKP, one-tenth of the fathers had not completed their elementary schooling and another one-tenth had attended university. One tenth of SKP mothers, also, had not completed their elementary schooling, but just 6% had attended university. In these two categories at opposite ends of the educational range, JKP parents were significantly under-represented, although to a lesser degree at the university level.

Data on parent education, then, as well as data on living accommodations suggests that the JKP tend to be more concentrated in a middle socio-economic status. SKP parents tended to be more spread out over the entire educational range and were, therefore, represented to a greater extent in the very lowest as well as the highest educational categories. Comparing the proportions of fathers with those of mothers, fewer mothers attended university but more mothers attended, as well as graduated from, secondary school. This was a pattern in both the JKP segment and in the whole population (Table 11). As well as population differences in education between SKP and JKP parents, it is noteworthy that in both the JKP and the SKP roughly 77% of the fathers and 79% of the mothers had dropped out of school before completing secondary school.

One inference that could be made from these parent dropout figures is that more than three-quarters of these kindergarten pupils have no parental model for continuing school achievement. Educational data, however, acquires more meaning within the context of occupation.

Of the seven categories into which parents' occupations were classified, the three categories at the low end of the socio-economic range included, for the most part, labouring or what are sometimes called "blue-collar" occupations as distinct from so-called "white-collar" occupations which, here, are taken to include the four remaining categories

(Table 12). The three lowest occupational categories included parents who were working in (1) unskilled labour or who were unemployed; (2) semi-skilled labour; and, (3) skilled manual labour. Generally, these types of occupations have demanded relatively little formal education in comparison with occupations classified in the three categories at the high end of the socio-economic range. The three highest occupational categories included (a) professionals of a minor, less than major or major type; (b) proprietors of small, medium or large independent businesses; and, (c) business personnel who held administrative, managerial or higher executive positions. The professionals, proprietors or business personnel were classified in category five, six or seven, according to the level of their occupation. Between the "blue-collar" workers and the professional, proprietory or business personnel types was a middle category, which included clerical or sales workers and technicians as well as owners of little businesses. This middle or fourth category was the lowest of the so-called "white-collar" categories in the socio-economic range. Both fathers and working mothers were classified according to the above scheme which was adapted from Hollingshead and Redlich (1958).

Although about one-quarter of the mothers of both populations worked outside the home, mothers of the JKP segment were under-represented in the "blue-collar" and over-represented in the "white-collar" categories. "Blue-collar" occupations claimed 60% of SKP and 47% of JKP mothers. Conversely, "while-collar" occupations claimed 40% of the SKP and 53% of JKP mothers. JKP mothers, then, tended to gravitate toward "white-collar" occupations in the middle and towards the upper end of the socio-economic range rather than toward "blue-collar" occupations.

Socio-economic status trends, as indicated by fathers' occupations were more complex. In each population, the bulk of the fathers, 71% in the SKP and 73% in the JKP, were engaged in occupations within the three "blue-collar" categories. But within these categories, fathers of the JKP segment were represented to a significantly greater extent among the skilled workers and to a significantly lesser extent among the semi-skilled. The unskilled or unemployed represented about 16% of both father populations. Another 16% of JKP fathers were engaged in the three highest "white-collar" categories which included the professions, etc. This 16% of JKP fathers was significantly greater than the 11% of SKP fathers in these three top categories. SKP fathers, on the other hand, were over-represented in the non-professional "white-collar" category which included sales or clerical workers, technicians and owners of little businesses. Fathers of the JKP segment, then, were relatively more prevalent in skilled labour and professional, etc. categories which, if they did not always require more formal education, would appear to require more preparatory training than either the semi-skilled or the clerical sales, etc. categories in which SKP fathers had a larger representation. SKP fathers did, however, have a significantly larger representation in the very highest occupational category, although this category included just 4% of the SKP and 3% of the JKP.

Although for the most part, JKP parents were over-represented in occupational categories of relatively higher socio-economic status, it is noteworthy that a large segment in both father populations, 45% in the SKP and 42% in the JKP, was comprised of unemployed, unskilled or semi-skilled workers. These percentages closely approximate those of fathers who had not continued their education beyond elementary school

(SKP 46%; JKP 43%). Also, the percentages of fathers in the skilled labour categories approximated those of fathers who had dropped out before they had completed secondary school. Altogether, roughly three-quarters of the JKP or SKP pupils came from homes where parents' formal educational attainment and/or occupational status suggests that the family patterns of achievement which contributed to the children's upbringing might have been uncongenial with those generally considered consistent with continuing success in school. In other words, some three-quarters of the population might perceive school achievement, per se, as neither a meaningful way of life nor a meaningful preparation for later living, to the extent that they had already acquired achievement patterns at considerable variance with those valued by the school.

As crude indices of socio-economic status, residential, educational and occupational factors showed that pupils from middle socio-economic backgrounds were represented to a greater extent and those from lower socio-economic backgrounds to a lesser extent in the JKP segment than in the SKP which contained it. Low socio-economic backgrounds have been found to be associated with lower school achievement than either middle or high socio-economic backgrounds. The JKP segment, then, would be expected to average achievement indices higher than the SKP simply as a function of the distributions of socio-economic factors within the two populations. Socio-economic factors, therefore, would need to be taken into account when investigating the effects of Junior Kindergarten experience on indices of later school achievement.

3(c) Cultural factors in the study included pupils' and parents' religious affiliations irrespective of denominations, the parents' Caucasian, Negroid or Asiatic racial origin, the countries in

which pupils and parents were born and, finally, the languages spoken by the pupils as well as in the homes.

Among Protestant, Roman Catholic, Jewish and Buddhist children, all but 2% of the SKP and 4% of the JKP had Protestant or Roman Catholic affiliations (Table 13). Protestants were significantly over-represented in the JKP, (SKP 60%; JKP 67%) while Roman Catholics were significantly under-represented (SKP 38%; JKP 29%). Since many Roman Catholic pupils transfer to separate schools after kindergarten, the Protestant - Roman Catholic ratios would undoubtedly change as SKP pupils move up through the grades. The Jewish - Buddhist ratios, on the other hand, would likely remain more stable.

Although less than half of 1% of the SKP or JKP were Buddhists, the proportion of Buddhists in the JKP was twice that in the SKP, and the proportion of Jewish children in the JKP was also twice that in the SKP. This latter population difference was significant. Traditionally, academic learning has held a higher place in the heirarchy of cultural values among Jewish peoples and Buddhists than among Gentiles. The significantly larger proportion of Jewish children, combined with the somewhat larger proportion of children of Buddhist affiliation in the JKP may be indicative of achievement related variables in the home environments. The presence of a larger proportion of Jewish and Buddhist children in the JKP segment might, in itself, tend to raise the average school achievement of this group over that of the SKP generally.

Religious affiliation of parents was categorized by agreement or non-agreement of faiths between parents, between father and pupil, as well as between mother and pupil (Table 14). JKP parents agreed to a significantly lesser extent than SKP parents (SKP 91%; JKP 87%).

Similarly, JKP pupils and fathers agreed to a lesser extent (SKP 94%; JKP 92%), as also did the mother and pupils (SKP 96%; JKP 93%) although the latter population difference was not significant. In both populations, the percentage of mother-pupil agreement was greater than father-pupil agreement. Three-way congruence of father-mother-pupil was not ascertained however. Possibly, areas of tacit agreement between parents of the same religious faiths might render many decisions automatic that parents of different religious faiths would have to work out explicitly. It seems possible that the home environment of a child whose parents differ in their religious faiths might tend to alert the child to problem recognition and motivate him toward problem solving. While there is no direct evidence from which to infer a relationship between pupils' school achievement and parents' same or different religious faiths, if parents' differing religious faiths were a factor stimulating a child's learning how to learn, then the JKP segment would have another advantage in school achievement apart from the possibility of Junior Kindergarten experience itself.

The racial origins of all but 4% of SKP and 5% of JKP parents were Caucasian. Non-Caucasians were either Asiatic or Negroid and the proportion of Asiatic to Negroid parents was two to one within both populations. The slightly larger proportion of Negroid parents in the JKP was not statistically significant but the JKP segment did have a significantly larger proportion of Asiatic parents than the SKP. It may be that school districts in which Junior Kindergartens were located included more Asiatic families; however, in view of the voluntary nature of Junior Kindergarten enrolment, it may also be that Asiatic families tend to be more education oriented. Were racial origins not taken into

account, then, the larger proportion of Asiatics in the JKP might tend to bias investigations of the effects of Junior Kindergarten experience on indices of school achievement.

Parents born in Canada comprised a significantly larger proportion of the JKP than of the SKP (Table 16). Just 53% of SKP fathers and 56% of the mothers were born in Canada, while, in the JKP, 59% of the fathers and 61% of the mothers were Canadian born. The British Isles was the birthplace of roughly 6% of SKP parents but of 8% of JKP parents. Although the proportions of British born parents was larger in the JKP, only that of mothers was significantly larger. Parents born in upwards of thirty-six other foreign countries comprised 40% of SKP and 33% of JKP fathers, as well as 38% of SKP and 31% of JKP mothers. The largest single group of foreign born parents in both populations came from Italy. Nevertheless, the proportion of Italian born parents in the JKP segment was significantly smaller (SKP 14%; JKP 9%). In the SKP, the proportion of Italian born parents was more than twice that of British born parents, but, in the JKP, the discrepancy between these proportions was relatively negligible. None of the remaining thirty-five odd countries, taken separately, showed significant population differences (Appendix I); but the SKP, for the most part, displayed larger representations as well as greater variety in foreign countries of birth.

There were, of course, more Canadian born kindergarten pupils than parents. About 86% of SKP and 90% of JKP pupils were born in Canada. As with parents, the proportion of Canadian born pupils in the JKP segment was significantly larger than in the SKP. While the British Isles was the birthplace of 3% of SKP and just 2% of JKP pupils, this

population difference was not statistically significant. Children born in all other foreign countries comprised roughly 12% of the SKP but just 7% of the JKP. Again, the largest single foreign born group in both populations came from Italy and alone showed significant population differences. About 5% of SKP pupils but just 2% of JKP pupils were actually born in Italy. Parents' rather than pupils' countries of birth attests to widespread foreign cultural influences within both the JKP segment and the SKP.

The wide range of cultural diversity within both the SKP and the JKP segment has potentialities for facilitating or retarding pupils' achievement in school. Exploring cultural diversities in the classroom with a non-judgemental fact-finding interest in different ways of life, approved and disapproved behaviours, goals and values that are an integral part of the experience constituting different students pre-school and out-of-school curriculum can provide opportunities for all pupils to broaden their own frames of reference, transcent personal or group prejudices and develop an open and creative interest in working with others and contributing to the common weal. On the other hand, if diverse patterns of cultural learning are not impartially explored at school, personal prejudices are more likely to persist and the development of social interest will depend almost entirely on the home environment. Furthermore, the student whose background is foreign to the prevailing school culture may find himself judged by school standards which may be alien to him. The standards which are a part of his background may be misunderstood or even depreciated at school. Given such a disenchanting school environment, it would hardly be surprising if a "foreign" student were motivated not to achieve but to leave school,

mentally and/or physically, when it debilitated rather than enhanced his development. From the pupils' frame of reference, cultural diversity, then, can provide him with either an abundant or a deprived school environment, stimulating or retarding his development, depending on potentialities inherent in diverse cultural backgrounds the school chooses to actualize.

Notwithstanding a widespread cultural diversity in both the SKP and the JKP, the JKP segment still had a significantly smaller proportion of pupils with foreign born parents. To the extent that Canadian born parents and middle socio-economic class combine to make the JKP segment more congenial than the SKP with the prevailing school culture, these factors, in addition to Junior Kindergarten experience itself, could differentially effect the overall achievement indices of the JKP segment in comparison with the SKP.

The tendency for pupils with foreign backgrounds to be underrepresented in the JKP was evidenced by the language data as well (Table 17). About 76% of the JKP were purely English speaking students in contrast to just 65% of the SKP. Only 16% of the JKP were foreign-and-English speakers whereas the SKP had 28%. Also roughly 7% of each population spoke no English at all. If a child had been reared with the English language, then school achievement, which depends so heavily on English language skills, should have been easier for him than for the child who was reared with another language and who may have had a considerably narrower and shallower grasp of English meanings than the native English speaking child. While there were no significant population differences among pupils who spoke no English at all, there were significant population differences among pupils who spoke a foreign language

and also English. It is doubtful if many of these pupils had equal facility in both languages. To the extent that their English language skills were inadequate for their full comprehension of curriculum content and/or teachers' instructions, such children would be at a disadvantage in achieving at school in comparison with the children reared solely with the English language. The evidence that the JKP segment had a significantly larger proportion of purely English speaking students and a significantly smaller proportion of students who spoke a foreign language and also English suggests that the English language skills of the JKP segment would give them, on the average, a considerable advantage over the SKP generally in achieving at school.

Furthermore, when the 7% who spoke no English became absorbed into the foreign and English speaking group, they would likely be the most retarded pupils in their school achievement unless they had either unusual linguistic aptitudes or unless their home environment provided the necessary learning milieux. With respect to home environments, it should be noted that certain language skills do not develop independently of socio-economic influences. Generally, the language employed in the school curriculum and by the teachers most closely resembles middle-class English. Typically, middle-class English contains referents for many objects and experiences with which the lower-class child has had no direct contact. Also, middle-class English expresses many relationships in terms that are frequently foreign to the English usage that the lower-class child has encountered. It does not necessarily follow that when either a purely English or a foreign-and-English speaking child can make himself understood to a middle-class

English speaker that the child, in his turn, can comprehend most of what the middle-class speaker says to him.

The language data of the pupils considered in the content of the socio-economic data suggests that the language of the school may be frequently meaningless for some 70% of the pupils in the schools of the City of Toronto, whether these children are purely English or foreign-and-English speakers, and since many "objective" instruments commonly used to assess pupils' achievement have a built-in middle-class linguistic bias (Davis, 1948), some 70% of Toronto's school children may become retarded in their school achievement largely as a function of a linguistic communicative gap between the school and the student.

The proportions of English and foreign languages spoken in kindergarten homes supports the data on countries of birth in showing that the cultural diversity of the SKP was under-represented in the Junior Kindergartens within Toronto's schools. About 69% of the JKP homes were purely English speaking in contrast to just 60% in the SKP. A foreign language(s) and English were spoken in 16% of JKP homes but in 22% of SKP homes. English was not spoken at all in 18% of SKP but just 14% of JKP homes were totally foreign speaking. All three population differences were significant.

The foreign languages most frequently spoken by the pupils and in the homes were Italian, German, Ukrainian and Polish, in that order (Table 18). Italian speakers were significantly more prevalent in the SKP, both among pupils (SKP 14%; JKP 8%) and among homes (SKP 14%; JKP 9%). Population differences for the other languages were not significant. Only four of the twenty-five odd foreign languages spoken by kindergarten children were proportionately more prevalent among the

JKP (Appendix J). French, Russian, Dutch and Yiddish were represented to a larger extent among pupils and among homes of the JKP. Population differences were not significant, however, except for Yiddish speaking homes which were significantly over-represented in the JKP. The over-representation of Yiddish speaking homes in the JKP is consistent with that of pupils of Jewish religious faith. Hungarian was equally represented in both populations and the representation of all other languages favoured the SKP.

In addition to the widespread foreign language backgrounds among kindergarten pupils, it is noteworthy that 40% of SKP and one-third of JKP foreign speaking students were Italian speakers. Traditionally, Italian cultural values have stressed family loyalties and cohesiveness and have perceived success within a framework of group co-operation rather than individual competition (Strodtbeck, 1961). Whether such values would facilitate or retard school achievement would depend largely on the extent to which the school had been able to bridge the cultural gap by integrating different cultural values within its own frame of reference.

Still without loosing sight of the wide diversity of cultural backgrounds from which SKP and JKP pupils came, the over-representations in the JKP of pupils with Canadian born parents, and of pupils and parents who were purely English speaking, as well as of pupils from middle socio-economic status families, shows that the JKP was a more homogeneous population that the SKP and suggests that the trend of the homogeneity was in the direction of closer congruence with the prevailing school culture. Control of the above factors, then, would be essential to investigations of the effects of Junior Kindergarten experience on

indices of school achievement. Although not as pervasive as country of birth or language, religious affiliation and racial origin biases could also distort the results when comparing achievement between pupils with and without Junior Kindergarten experience.

(4) Supplementary Factors

The supplementary factors, into which the remaining data from the surveys of the SKP and the JKP are summarized, include parent-child legal, residence, and separation relationships, classes pupils attended outside the jurisdiction of the public schools and, finally, some information concerning the pupils' health. With the exception of the health data, these factors, like those just discussed, concern aspects of the pupils' out-of-school or home environment but, unlike those discussed above, the categories of these factors are not widely dispersed throughout the populations. Nevertheless, some categories, along with the pupil representations they contain, are of interest in themselves.

Parent-child legal relationships included biological parents, step and foster parents as well as guardians (Table 19). Only 2% of the male and 1% of the female parents were not biologically related to the child. Except for step-fathers, who were under-represented in the JKP (SKP 1.23%; JKP 0.32%), population differences were not significant.

Parent-child residence relationships showed whether the biological parent lived at home with the child or away from home or whether the parent was deceased (Table 20). All but 7% of SKP and 6% of JKP fathers lived with their own child; and all but 2% of SKP and 1% of JKP mothers lived with their own child. No population difference was significant.

Parent-child separations were summarized only for the SKP and included just 8% of the fathers and 3% of the mothers (Table 21). In descending order of frequency these parents were separated from the child--without divorce, by death, with divorce, by remarriage, and by sickness or other causes. Parents who returned were also included in the separation categories and comprised the smallest group. Separation without divorce account for about two-thirds of the fathers and about half the mothers in these categories.

Out-of-school classes were attended by just 4% of the SKP and 0.8% or thirteen pupils of the JKP (Table 22). These classes included church groups, dancing, language and music classes, as well as, other miscellaneous activities. Although forty-two SKP and five JKP pupils spent as much as five hours per week in classes or other activities outside the jurisdiction of the public schools, the most frequent amount of time spent was one hour per week (Appendix K).

Finally, the health data reported showed that about one-quarter of the SKP and one-fifth of the JKP had had previous illnesses and/or operations, (with a per capita average of 1.31 for the SKP and 1.24 for the JKP (Table 23). JKP illnesses and/or operations were summarized into seventeen categories (Table 24). Routine operations had occurred most frequently. These accounted for 26% of the instances. Disorders of the respiratory or circulatory system ranked second with 15% and common childhood diseases ranked third with 11%.

Illnesses and/or operations were not summarized from the later SKP data. Instead, the physical defects reported were summarized into ten categories which, in descending order of frequency, included defects of vision, speech, body deformity, hearing, underweight, cardiac

condition, overweight, muscular co-ordination, respiratory condition and, lastly, diabetes. About 9% of the SKP were reported to have one or more of such defects in either a corrected or uncorrected form (Table 25). There was, of course, no way of knowing whether all defects were recognized. Among those defects recognized in each category, however, the percentage that had been corrected was alarmingly low. For instance, less than half of the vision defects and only a fifth of the hearing defects had been corrected. Many defects may have been identified for the first time when the child entered school and was examined by the school nurse. Also, some types of defects are more difficult to correct and some require prolonged treatment. Nevertheless, those uncorrected defects that were readily amenable to correction may constitute an unwarranted handicap to a pupil's achievement.

SUMMARY AND CONCLUSIONS

The conclusions to be drawn from the population study relate to the three perspectives from which the data and findings can be considered. These three perspectives can be cast in question form as follows:

1. What population factors, other than Junior Kindergarten experience itself, might differentially bias comparative investigations or interpretations of indices of school achievement from pupils with and without Junior Kindergarten experience?
2. What are the most characteristic features of the population of pupils enrolled during a single year (1961-62) in the Senior Kindergarten of Toronto's eighty-six elementary schools and how may such features be related to the pupils' intellectual and social development within a school environment?
3. What types of Senior Kindergarten pupils were actually served and not served during 1960-61 by Toronto's Junior Kindergartens in thirty-six schools and what types of pupils stand to gain most from an earlier school experience that meets their developmental needs?

For the purposes of the longitudinal Study of Achievement, the answer to the first question is that pupil's age, the presence or absence of older siblings, father's educational and occupational level, as well as the languages of the pupil and the home are the main factors from the population study to be taken into account to control for age, familial, socio-economic, and cultural biases in achievement indices between pupils with and without Junior Kindergarten experience. Some of the ways in which these biases may be related to achievement in the pupil-school

situation have already been discussed when the distribution of the different factors in the populations were being described.

For the purposes of school personnel, the implication is that the achievement indices of pupils, with and without Junior Kindergarten experience, are not directly comparable per se. School personnel will want to examine the ways in which the above factors may be related to the achievement indices and the particular pupils with whom they are directly concerned. While population factors are not the only factors related to pupils' achievement in school, their functional relationships are important and need to be understood to be modified. Hopefully, in the discussion of these factors a few insights were provided to deepen the understanding of the functional relationship of these factors to the pupil-school situation.

In answer to the second question, the most characteristic features of the SKP were the following: about 20% of the 8695 pupils had had previous school experience--17% in Junior Kindergarten, and 3% in Senior Kindergarten; two-thirds of the population were five years old, almost one-third were four and about 2% were six or seven years of age; 78% had older, 65% had younger siblings and 2.5% had twins or other multiple births in their families; 16% had grandparents living at home and 25% of the mothers worked outside the home; 23% lived in flats or rented rooms and 22% lived in two to three rooms; almost half the parents had not gone beyond elementary school and almost half the fathers were unemployed, unskilled or semi-skilled; altogether, about 77% of the parents had dropped out before completing secondary school and 70% of the fathers were classified in manual labour occupations; 60% of the pupils were Protestant, and 96% of the parents were Caucasian; almost half the

parents were foreign born--14% in Italy; foreign language(s) were spoken in 40% of the homes--Italian in 14%; 35% of the pupils spoke foreign language(s)--14% Italian; 7% of the pupils could not speak English and English was not spoken in 18% of the homes. Altogether, parents were born in upwards of thirty-five foreign countries and pupils and/or parents spoke more than twenty-five different foreign languages.

The overall picture emerging from the above characteristics is one of widespread cultural diversity, of a heavy weighting of pupils from working class families and from low socio-economic backgrounds. If pupils' intellectual and social development is to be more than a function of family cultures and out-of-school environments[1], then school personnel will need to examine what the various aspects of pupils' out-of-school learning actually are and how these function within the present pupil-school situation. The main source of such information is, of course, the pupils themselves. Logically the place for such an examination is in the ongoing situation, that is, the classroom. Here teacher and pupils can examine together the past learnings they bring to their present problem solving situations. Differences as well as similarities can be noted by the teacher. Pupils can be encouraged to suggest and try out whatever strategies they feel might move them toward more effective solutions of the problems at hand. Recognition of, respect for, and utilization of learned differences among individuals tends not only to broaden the frame of reference of the individuals but tends, at the same time, to stimulate an emergence of more realistically appropriate solutions within the group. Furthermore, when a continuity is experienced

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1 For the effects of abundant-deprived environments on observed achievement indices and I.Q. measures over time, see Bloom, 1964.

between out-of-school and in-school learnings a pupil's interest and attention is less likely to be split between two environments. Consequently, he is more likely to be able to function as an integrated person in utilizing and developing whatever native potentials he may have.

In answer to the third question, the JKP differed significantly from the SKP by having relatively more or relatively less of the following: more five-year-olds and fewer four-year-olds[1]; more pupils with older siblings; more houses and medium sized residences but fewer flats and small sized residences; more parents with incomplete secondary school but fewer parents with incomplete elementary school; more fathers in skilled labour but fewer in semi-skilled; more fathers in the professions, etc., but fewer in lower status "white collar" occupations; more Canadian born pupils and parents, as well as more mothers born in the British Isles, but fewer foreign born pupils and parents--especially those born in Italy; more Asiatic parents; more Jewish children and Yiddish speaking homes; more purely English speaking pupils and homes but fewer foreign-and-English speaking pupils and homes; and finally fewer homes (but not pupils) in which no English was spoken at all.

The overall picture emerging from the above differences between the JKP and the SKP is that Toronto's Junior Kindergartens served a population that was generally more congruent with the prevailing school culture in that it had larger proportions of pupils from purely English speaking and from middle rather than low socio-economic backgrounds. In as much as middle and/or upper socio-economic backgrounds have been more consistently associated with school achievement than low socio-economic backgrounds, the population served by the Junior Kindergartens was likely

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1 When in Junior Kindergarten, the ages were four and three respectively.

to be more successful in their school achievement than the SKP even without Junior Kindergarten experience. The types of pupils who, potentially, could make the greatest gains from an earlier school experience which met their developmental needs tended, for the most part, to be under-represented in the Junior Kindergarten of 1960-61. There were some exceptions, of course. Pupils who spoke no English were about equally represented in both populations. On the other hand, pupils from non-English speaking homes were under-represented as were pupils who spoke foreign language(s) and pupils from low socio-economic backgrounds. Some of the linguistic comprehension and social-emotional problems that may constitute obstacles to the development and expression of abilities of these types of children within the pupil-school situation were suggested when these population factors were discussed. If Junior Kindergarten experience can enhance and accelerate pupil's development, then the types of pupils who were under-represented would likely stand to gain most from the earlier school experience. It is not suggested, however, that the types of pupils who were under-represented in the JKP would, willy-nilly, benefit from Junior Kindergarten experience. For it is not the mere existence of these factors in the pupils that would enable them to derive benefit from Junior Kindergarten experience. Rather it is the way in which Junior Kindergarten personnel may be able to respect each individual's frame of reference and utilize it in a group process of broadening all frames of references which, in turn, can produce a kind of abundant climate where individual growth or development is not deprived of the freedom to maximize itself.

APPENDIX A

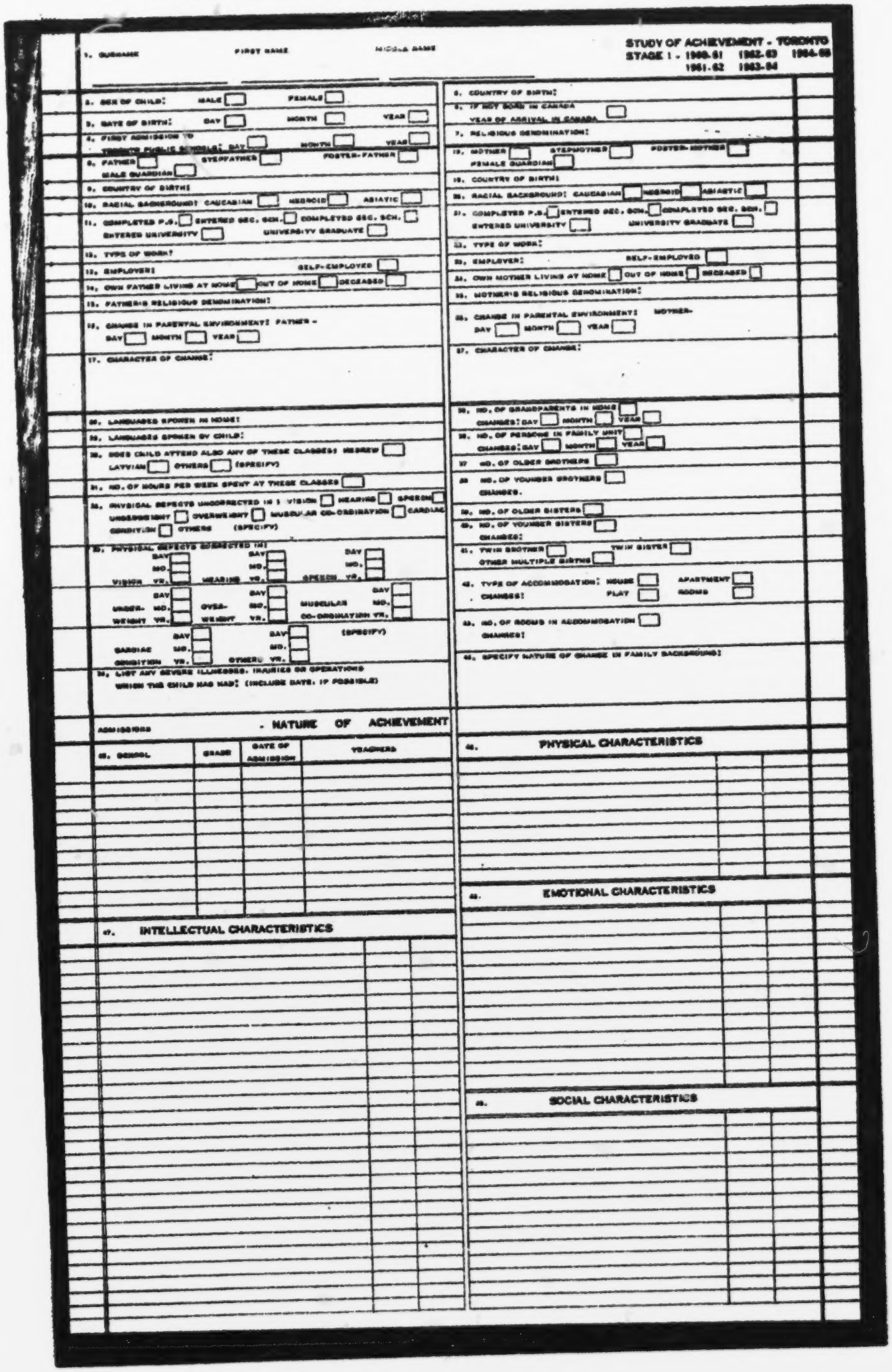
NAMES OF TORONTO PUBLIC SCHOOLS SHOWING SCHOOLS WITH JUNIOR AS WELL AS SENIOR KINDERGARTEN (1961-1962)

1. Adam Beck*
2. Alexander Muir
3. Allenby
4. Annette Street
5. Argentina
6. Balmy Beach
7. Bedford Park
8. Blythwood
9. Bowmore Road
10. Brant Street*
11. Brock
12. Brown*
13. Bruce*
14. Charles G. Fraser
15. Church Street
16. Clinton Street*
17. Coleman Avenue
18. Cottingham*
19. Davenport Road
20. Davisville
21. Deer Park*
22. Dewson Street*
23. Dovercourt
24. Duke of Connaught
25. Duke of York
26. Dundas
27. Earl Beatty
28. Earl Haig*
29. Earlscourt*
30. Eglinton*
31. Essex
32. Fern Avenue
33. Frankland
34. General Mercer*
35. Givins*
36. Gledhill*
37. Grace Street*
38. Hillcrest
39. Howard*
40. Hughes
41. Huron Street
42. Indian Road Crescent
43. Island
44. Jesse Ketchum
45. John Fisher
46. John Ross Robertson
47. John Wanless
48. Keele Street
49. Kew Beach*
50. Kimberley
51. King Edward
52. Lansdowne*
53. Leslie Street
54. Lord Dufferin
55. Maurice Cody
56. McMurrich*
57. Morse Street*
58. Niagara Street*
59. Norway
60. Ogden*
61. Orde Street*
62. Oriole Park
63. Ossington
64. Palmerston Avenue*
65. Pape Avenue*
66. Park
67. Parkdale
68. Pauline Avenue*
69. Perth Avenue*
70. Queen Victoria
71. Regal Road*
72. Regent Park*
73. Roden
74. Rose Avenue*
75. Rosedale
76. Runnymede
77. Ryerson*
78. Sackville Street*
79. Shirley Street
80. Sprucecourt*
81. St. Clair Avenue*
82. Whitney
83. Wilkinson*
84. Williamson Road*
85. Winchester Street
86. Withrow Avenue

* Designates each of the thirty-six schools with both Junior and Senior Kindergarten.

APPENDIX B

PUPIL PROFILE FOLDER FOR STUDY OF ACHIEVEMENT



1. SURNAME FIRST NAME MIDDLE NAME

STUDY OF ACHIEVEMENT - TORONTO
STAGE 1 - 1960-61 1962-63 1964-65
1961-62 1963-64

2. SEX OF CHILD: MALE ☐ FEMALE ☐
3. DATE OF BIRTH: DAY ☐ MONTH ☐ YEAR ☐
4. FIRST ADMISSION TO TORONTO PUBLIC SCHOOLS: DAY ☐ MONTH ☐ YEAR ☐
5. FATHER ☐ STEPFATHER ☐ FOSTER-FATHER ☐ MALE GUARDIAN ☐
6. COUNTRY OF BIRTH:
7. RACIAL BACKGROUND: CAUCASIAN ☐ NEGROID ☐ ASIATIC ☐
8. COMPLETED P.S. ☐ ENTERED SEC. SCH. ☐ COMPLETED SEC. SCH. ☐ ENTERED UNIVERSITY ☐ UNIVERSITY GRADUATE ☐
9. TYPE OF WORK:
10. EMPLOYER: SELF-EMPLOYED ☐
11. OWN FATHER LIVING AT HOME ☐ OUT OF HOME ☐ DECEASED ☐
12. FATHER'S RELIGIOUS DENOMINATION:
13. CHANGE IN PARENTAL ENVIRONMENT: FATHER - DAY ☐ MONTH ☐ YEAR ☐
14. CHARACTER OF CHANGE:
15. LANGUAGES SPOKEN IN HOME:
16. LANGUAGES SPOKEN BY CHILD:
17. DOES CHILD ATTEND ALSO ANY OF THESE CLASSES: HEBREW ☐ LATVIAN ☐ OTHERS ☐ (SPECIFY)
18. NO. OF HOURS PER WEEK SPENT AT THESE CLASSES ☐
19. PHYSICAL DEFECTS UNCORRECTED IN: VISION ☐ HEARING ☐ SPEECH ☐ UNDERWEIGHT ☐ OVERWEIGHT ☐ MUSCULAR CO-ORDINATION ☐ CARDIAC CONDITION ☐ OTHERS (SPECIFY)
20. PHYSICAL DEFECTS CORRECTED IN:
VISION DAY ☐ MO. ☐ YR. ☐ HEARING DAY ☐ MO. ☐ YR. ☐ SPEECH DAY ☐ MO. ☐ YR. ☐
UNDER-WEIGHT DAY ☐ MO. ☐ YR. ☐ OVER-WEIGHT DAY ☐ MO. ☐ YR. ☐ MUSCULAR CO-ORDINATION DAY ☐ MO. ☐ YR. ☐
CARDIAC CONDITION DAY ☐ MO. ☐ YR. ☐ OTHERS (SPECIFY) DAY ☐ MO. ☐ YR. ☐
21. LIST ANY SEVERE ILLNESSES, INJURIES OR OPERATIONS WHICH THE CHILD HAS HAD: (INCLUDE DATE, IF POSSIBLE)

22. COUNTRY OF BIRTH:
23. IF NOT BORN IN CANADA YEAR OF ARRIVAL IN CANADA ☐
24. RELIGIOUS DENOMINATION:
25. MOTHER ☐ STEPMOTHER ☐ FOSTER-MOTHER ☐ FEMALE GUARDIAN ☐
26. COUNTRY OF BIRTH:
27. RACIAL BACKGROUND: CAUCASIAN ☐ NEGROID ☐ ASIATIC ☐
28. COMPLETED P.S. ☐ ENTERED SEC. SCH. ☐ COMPLETED SEC. SCH. ☐ ENTERED UNIVERSITY ☐ UNIVERSITY GRADUATE ☐
29. TYPE OF WORK:
30. EMPLOYER: SELF-EMPLOYED ☐
31. OWN MOTHER LIVING AT HOME ☐ OUT OF HOME ☐ DECEASED ☐
32. MOTHER'S RELIGIOUS DENOMINATION:
33. CHANGE IN PARENTAL ENVIRONMENT: MOTHER - DAY ☐ MONTH ☐ YEAR ☐
34. CHARACTER OF CHANGE:
35. NO. OF GRANDPARENTS IN HOME ☐ CHANGES: DAY ☐ MONTH ☐ YEAR ☐
36. NO. OF PERSONS IN FAMILY UNIT ☐ CHANGES: DAY ☐ MONTH ☐ YEAR ☐
37. NO. OF OLDER BROTHERS ☐
38. NO. OF YOUNGER BROTHERS ☐ CHANGES:
39. NO. OF OLDER SISTERS ☐
40. NO. OF YOUNGER SISTERS ☐ CHANGES:
41. TWIN BROTHER ☐ TWIN SISTER ☐ OTHER MULTIPLE BIRTHS ☐
42. TYPE OF ACCOMMODATION: HOUSE ☐ APARTMENT ☐ FLAT ☐ ROOMS ☐ CHANGES:
43. NO. OF ROOMS IN ACCOMMODATION ☐ CHANGES:
44. SPECIFY NATURE OF CHANGE IN FAMILY BACKGROUND:

ADMISSIONS - NATURE OF ACHIEVEMENT

45. SCHOOL	GRADE	DATE OF ADMISSION	TEACHERS

46. PHYSICAL CHARACTERISTICS

47. INTELLECTUAL CHARACTERISTICS

48. EMOTIONAL CHARACTERISTICS

49. SOCIAL CHARACTERISTICS

APPENDIX C

INSTRUCTIONS TO TEACHER ON PUPIL PROFILE FOLDER FOR STUDY OF ACHIEVEMENT

Study of Achievement, Toronto
Stage I.

PUPIL PROFILE

This Pupil Profile folder is designed to record specific information about a child, which should help the teacher to understand the child better. It will be helpful only when the information is recorded accurately, when the records are kept up to date and when frequent study is made of the information about the pupil.

Clearly PRINT information about the child in the spaces provided. When alternatives are given for recording information, mark the appropriate box with a cross (X). If some information is indefinite or questionable, record the item in pencil.

The following information is given to help in recording:—

Item No. 5 – Date of Birth. Record the day, the number of the month in the year, and the final two digits of the year. e.g. [3/7/54] would indicate that the child was born on the 3rd day of July, 1954.

Item No. 7 – Religious Denominations: Indicate the specific church group to which the child belongs, e.g., Roman Catholic, Baptist, United Church, Greek Orthodox, etc. If no church affiliation is known, leave the space blank.

Items 11 and 23 – Record in pencil. If mother (or guardian) does not work outside of home, leave space blank.

Items 12 and 24 – Record in pencil – keep it up to date as best you can.

Items 13 and 25 – Record the specific church group to which parents or guardians belong – Roman Catholic, Baptist, United Church, Greek Orthodox, etc. If no church affiliation is known, leave the space blank.

Items 14 and 26 – Record the date of any significant change in parental environment, e.g., divorce, remarriage, lengthy unemployment, serious illness, etc.

Items 17 and 27 – Specify the director of change in the parental environment, e.g., the number of months unemployed, separation, changes in type of work done, etc.

Item 29 – Record any special classes which the child attends in addition to his regular school programme.

Item 30 – Specify as accurately as possible the date when any physical defects are corrected.

Item 34 – Record illnesses such as rheumatic fever, polio, etc., head or body injuries and any type of serious operations which the child has undergone.

Item 35 – Record the approximate date during which there were changes in number of grandparents residing in the home.

Item 36 – Record the TOTAL number of persons living in the dwelling, including all hired help, relatives, boarders, etc. Record the date of any significant changes.

Items 37-42 – Record step-brothers or step-sisters. Please specify if they are step-brothers or step-sisters.

Item 38 – Record the approximate dates of changes in number of younger brothers.

Items 42 and 43 – Record the approximate dates of change. Do not include bathrooms in total number of rooms (Item 43).

Item 44 – Record here any significant changes which pertain to persons living in the home, changes in accommodation, etc., which might affect pupil's achievement.

Item 45 – Carefully record:

1. Name of School.
2. Type of kindergarten or grade level.
3. Date of admission in terms of date, month number, year, e.g. [3/9/61]
4. Name of teacher, e.g. – Miss Susan Smith.

Items 46-49 – These items are records of the results of tests or special studies. These items will be recorded by the Research Department.

APPENDIX D

MONTH AND YEAR IN WHICH SKP AND JKP PUPILS STARTED SCHOOL GIVEN IN PUPIL PERCENTAGES SHOWING YEARS OF SCHOOL ATTENDANCE[a]

Month of Admission	Year of Admission SKP (N = 8458)[b]				JKP (N = 1593)[b]
	1959-60	1960-61	1961-62	Total	1960-61
September	0.28	17.14	76.03	93.45	94.66
October	—	0.57	1.43	2.00	3.26
November	—	0.44	0.95	1.39	1.38
December	—	0.09	0.43	0.52	0.25
January	0.02	0.31	0.72	1.05	0.25
February	—	0.15	0.47	0.62	0.12
March	—	0.19	0.12	0.31	—
April	—	0.18	0.01	0.19	0.06
May	0.01	0.40	—	0.41	—
June	—	0.05	—	0.05	—
Total	0.31	19.52	80.16	99.99	99.98
Started in JrK.	0.06	17.03	0.31	17.40	99.98
Started in SrK.	0.25	2.49	79.85	82.59	—
Attendance	3 yrs.	2 yrs.	1 yr.		1 yr.

[a] A breakdown of SKP pupil percentages in Table 1, plus corresponding JKP percentages.

[b] Number of pupils represents 97% of the SKP and 99% of the JKP.

APPENDIX E

AGE IN YEARS AT SEPTEMBER ENROLMENT OF SKP AND JKP PUPILS GIVEN IN PUPIL PERCENTAGES[a]

Population	Number of Pupils[b]	Age at September Enrolment				
		-4	4	5	6	7
SKP	8534	--	31.52	66.73	1.68	0.07
JKP	1591	16.72	83.22	0.06	--	--

[a] Reclassification of modal ages in Table 3.

[b] Number of pupils represents 98% of the SKP and 99% of the JKP.

APPENDIX F

SIZES OF SKP AND JKP FAMILIES GIVEN IN PUPIL PERCENTAGES[a]
SHOWING POPULATION DIFFERENCES

Population	Number of Pupils[b]	Number of Family Members[c]										
		2	3	4	5	6	7	8	9	10	11	12+
SKP	8252	1.20	9.88	28.15	25.41	16.71	8.79	4.92	2.29	1.25	0.65	0.75
JKP	1547	0.58	8.73	28.05	25.73	18.49	9.57	4.27	2.20	1.16	0.52	0.70
Population Differences[c]												
SKP > JKP	(6705)	0.62	1.15	0.10				0.65	0.09	0.09	0.13	0.05
JKP > SKP					0.32	1.78	0.78					

[a] Further numerical breakdown of pupil percentages in Table 4. Note that family size refers only to those people living in the home with the pupil but includes any relatives, boarders and servants as well as the immediate family.

[b] Number of pupils represents 95% of the SKP and 97% of the JKP.

[c] The one-year interval between the collections of JKP and SKP data invalidates statistical assessments of population differences for family sizes.

APPENDIX G

NUMBERS OF OLDER AND YOUNGER SKP AND JKP SIBS BY SEX GIVEN IN PUPIL PERCENTAGES[a]

Age-Sex Category	Number of Pupils	Percentage of Total Populations[a]	Number of Sibs					
			1	2	3	4	5	6+
Older Brother								
SKP	3433	39.48	67.93	22.52	6.35	2.21	0.61	0.38
JKP	706	44.26	66.15	21.82	7.79	2.97	1.13	0.14
Older Sister								
SKP	3375	38.82	68.47	22.07	5.93	2.13	0.96	0.44
JKP	737	46.21	67.16	22.80	5.83	2.04	1.63	0.54
Younger Brother								
SKP	2909	33.46	80.89	16.23	2.51	0.24	0.03	0.10
JKP	460	28.84	84.78	13.48	1.52	--	0.22	--
Younger Sister								
SKP	2765	31.80	80.87	16.38	2.42	0.22	0.04	0.07
JKP	424	26.58	86.32	13.21	0.47	--	--	--

[a] The percentages in this column are identical to the pupil percentages in Table 6. Note that same age sibs such as twins or other multiple births were classified separately from older and younger sibs. Roughly 2 1/2% of both the SKP and the JKP reported multiple births in their families.

APPENDIX H

SIZES OF SKP AND JKP RESIDENCES IN ROOMS GIVEN IN PUPIL PERCENTAGES[a] SHOWING POPULATION DIFFERENCES

Population	Number of Pupils[b]	Number of Rooms									
		1	2	3	4	5	6	7	8	9	10+
SKP	8287	0.75	4.78	16.04	16.38	14.85	26.96	8.58	6.72	2.46	2.48
JKP	1473	0.27	3.46	14.80	16.77	17.85	29.53	8.22	5.43	2.38	1.29
Population Differences											
SKP JKP	(6814)	0.48	1.32	1.24				0.36	1.29	0.08	1.19*
JKP SKP					0.39	3.00*	2.57				

* Significant beyond .01 level.
** Significant beyond .001 level.

[a] Breakdown of pupil percentages in Table 9.

[b] Number of pupils represents 95% of the SKP and 92% of the JKP.

APPENDIX I

OTHER FOREIGN COUNTRIES OF BIRTH OF SKP AND JKP PUPILS, FATHERS AND MOTHERS GIVEN IN PUPIL PERCENTAGES SHOWING RANK ORDER FOR SKP PUPILS[a]

	Country	Pupils		Fathers		Mothers	
		SKP	JKP	SKP	JKP	SKP	JKP
3.	Germany	1.48	0.75	2.93	2.29	3.85	3.11
4.	Balkan States	1.38	0.94	4.86	4.46	4.30	4.50
5.	Portugal	1.02	0.94	1.23	1.14	1.17	1.08
6.	Poland	0.44	0.06	4.40	4.77	3.40	3.55
7.	U. S. A.	0.36	0.19	0.97	0.95	1.00	1.20
8.	Hungary	0.31	0.25	0.90	0.89	0.66	0.57
9.	The Orient	0.27	0.12	1.25	1.14	1.29	1.20
10.	Benelux Nations	0.24	0.25	0.42	0.63	0.55	0.57
11.	Austria	0.19	0.12	0.51	0.51	0.66	0.57
12.	British West Indies	0.16	—	0.41	0.32	0.40	0.25
13.	France	0.16	0.19	0.21	0.19	0.30	0.19
14.	South America	0.16	0.06	0.11	0.19	0.14	0.19
15.	Finland	0.14	—	0.35	—	0.39	—
16.	Malta	0.12	0.06	0.53	0.32	0.47	0.32
17.	Scandanavia	0.12	—	0.37	0.32	0.27	0.19
18.	Austria	0.11	0.31	0.09	0.19	0.13	0.13
19.	North Africa	0.11	0.43	0.11	0.45	0.07	0.38
20.	Isreal	0.09	0.12	0.02	—	0.01	—
21.	Macedonia	0.05	—	0.08	—	0.10	—
22.	Switzerland	0.05	0.06	0.13	0.25	0.07	0.13
23.	Ukraine	0.04	0.06	2.69	2.54	1.81	1.78
24.	Russia	0.02	0.06	0.37	0.32	0.32	0.32
25.	Turkey	0.02	—	0.04	—	0.04	—
26.	Cuba	0.01	—	—	—	—	—
27.	Czechoslovakia	0.01	—	0.58	0.57	0.49	0.19
28.	South Africa	0.01	—	0.07	—	0.02	—
29.	Baltic States	—	0.06	2.30	1.66	2.14	1.78
30.	Central America	—	—	0.01	—	—	—
31.	Egypt	—	—	0.01	—	0.04	—
32.	Iraq	—	—	—	—	0.01	0.06
33.	Malaya	—	—	0.01	—	—	—
34.	New Zealand	—	—	0.01	—	0.02	—
35.	Spain	—	—	0.01	—	0.07	0.13
36.	Trans Jordan	—	—	0.01	—	—	—
	Totals[b]	7.07	5.03	25.99	24.10	24.19	22.39
	No. of Pupils	8624	1590	7550	1570	7554	1576
	Population Size	8695	1595	8695	1595	8695	1595

[a] See Table 16 of text for 1. Italy and 2. British Isles.

[b] Allowing for rounding errors, Totals correspond to "other" column in Table 16 of text.

APPENDIX J

LANGUAGES OF SKP AND JKP PUPILS AND HOMES GIVEN IN PUPIL PERCENTAGES SHOWING RANK ORDER FOR SKP PUPILS[a]

Language	Pupils		Homes	
	SKP	JKP	SKP	JKP
0. English	93.32	92.10*	81.82	85.37**
1. Italian	13.85	8.09**	14.26	8.70**
2. German	4.35	3.57	5.16	4.66
3. Ukrainian	2.65	2.63	3.28	3.53
4. Polish	2.19	1.63	2.78	2.58
5. Greek	2.04	1.50	2.18	1.89
6. Portuguese	1.17	1.06	1.18	1.07
7. Chinese	1.13	0.94	1.23	1.01
8. Yugoslav	0.73	0.56	0.88	0.63
9. Lithuanian	0.71	0.31	0.83	0.38
10. French	0.70	1.06	1.57	2.21
11. Estonian	0.65	0.31	0.65	0.32
12. Hungarian	0.57	0.56	0.66	0.69
13. Latvian	0.51	0.31	0.58	0.44
14. Maltese	0.35	—	0.47	—
15. Russian	0.33	0.50	0.33	0.63
16. Yiddish	0.32	0.38	0.51	1.58**
17. Japanese	0.28	—	0.57	—
18. Czech	0.20	0.06	0.29	0.25
19. Dutch	0.20	0.31	0.37	0.44
20. Spanish	0.16	—	0.15	—
21. Danish	0.08	—	0.16	—
22. Roumanian	0.06	—	0.05	—
23. Swedish	0.06	—	0.06	—
24. Norwegian	0.02	—	0.03	—
25. Arabic	0.01	—	0.10	—
+ Others < .01	1.52	—	1.61	—
Total	128.16	115.88	121.76	116.38
Bilingual %	28.16	15.88**	21.76	16.38**
No. of Pupils	8561	1595	8592	1586
Population Size	8695	1595	8695	1595

* significant beyond .01 level.
** significant beyond .001 level.

[a] A breakdown of "Total" pupil percentages in Tables 17 and 18.

APPENDIX K

HOURS SPENT IN AFTER-SCHOOL CLASSES BY SKP AND JKP PUPILS GIVEN IN PUPIL PERCENTAGES

Population	Number of Pupils[a]	Hours					
		1/2	1	2	3	4	5+
Frequencies							
SKP	303	17	166	40	31	7	42
JKP	12	1	5	1	0	0	5
Percentages							
SKP	303	5.61	54.79	13.20	10.23	2.31	13.86
JKP	12	8.33	41.67	8.33	.00	.00	41.67

[a] Number of pupils represents 3.48% of the SKP and 0.75% of the JKP; see also Table 25.

APPENDIX L

LANGUAGES STUDIED AFTER SCHOOL BY SKP AND JKP PUPILS GIVEN IN PUPIL PERCENTAGES[a]

Population	Number of Pupils[b]	Type of Language Class				
		Latvian	Hungarian	Hebrew	Chinese	Russian
SKP	23	39.13	21.74	21.74	13.04	4.35
JKP	3	--	--	--	66.67	33.33

[a] Breakdown of pupil percentage for language in Table 25.

[b] Number of pupils represents 0.26% of the SKP and 0.19% of the JKP.

APPENDIX M

CORRECTED AND UNCORRECTED PUPIL AND OCCURRENCE PERCENTAGES IN PHYSICAL DEFECT CATEGORIES OF SKP[a]

Physical Defect	Percentages Corrected		Percentages Uncorrected	
	Pupils N = 157	Occurrences N = 162	Pupils N = 650	Occurrences N = 718
1. Vision	70.70	68.52	22.62	20.47
2. Hearing	10.19	9.88	9.08	8.22
3. Body Deformity	7.01	6.79	10.31	9.33
4. Speech	5.73	5.56	32.31	29.25
5. Underweight	2.55	2.47	10,00	9.05
6. Cardiac Condition	2.55	2.47	8.31	7.52
7. Overweight	1.27	1.23	7.54	6.83
8. Diabetic	1.27	1.23	1.85	1.67
9. Respiratory Condition	1.27	1.23	4.00	3.62
10. Muscular Co-ordination	0.64	0.62	4.46	4.04
Totals	103.18	100.00	110.48	100.00
Pupils with > 1 defect	3.18		10.48	

Note:- 157 pupils corrected = 1.81% of SKP.
650 pupils uncorrected = 7.48% of SKP.
807 pupils or 9% of the SKP had 880 defects recognized.

[a] See also Table 23.

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